

WELDON B. STUTZMAN
DEPUTY ATTORNEY GENERAL
IDAHO PUBLIC UTILITIES COMMISSION
PO BOX 83720
BOISE, IDAHO 83720-0074
(208) 334-0318
IDAHO BAR NO. 3283

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IDAHO PUBLIC
UTILITIES COMMISSION

Street Address for Express Mail:
472 W WASHINGTON
BOISE ID 83702-5983

Attorney for the Commission Staff

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

**IN THE MATTER OF THE APPLICATION)
OF IDAHO POWER COMPANY'S REQUEST)
FOR AN ACCOUNTING ORDER TO RECOVER)
CLOUD SEEDING PROGRAM EXPENSES FOR)
THE WINTER OF 2004 - 2005.)**

CASE NO. IPC-E-04-24

**COMMENTS OF THE
COMMISSION STAFF**

COMES NOW the Staff of the Idaho Public Utilities Commission, by and through its Attorney of record, Weldon B. Stutzman, Deputy Attorney General, and in response to the Notice of Application and Notice of Modified Procedure issued in Order No. 29622 on November 3, 2004, submits the following comments.

BACKGROUND

On October 21, 2004, Idaho Power Company filed an Application for an accounting order to allow recovery of its cloud seeding program costs for the winter of 2004-2005. The Application states that the Company has operated a cloud seeding program for a number of years and that the Commission did not allow recovery of its expenses in the Company's recent general rate case. The Company filed with its Application additional information that it asserts demonstrates scientifically measured benefits of the Company's cloud seeding program during the winter of 2003-2004. Noting that the Company has funded two years of cloud seeding

without any cost recovery, the Application states Idaho Power would like to be able to recover its costs associated with continuing its program during the winter of 2004-2005.

Idaho Power is not asking the Commission to defer expenditures associated with the cloud seeding program on a long-term basis, but is requesting only that the Commission authorize the Company to defer the expenses associated with the program during the upcoming winter. The Company estimates those costs to be approximately \$950,000 on a total company basis, which the Company proposes to capture "on the same ninety percent-ten percent (90%/10%) ratio by which other power supply expenses are shared between customers and shareholders in the PCA." Idaho Power included with its Application prefiled direct testimony to provide additional information on the results of its cloud seeding program.

STAFF REVIEW

The Company is beginning the third and final year of a pilot program to study the effects of cloud seeding in a portion of the Payette River drainage. The Company is encouraged by the results of the first two years. In the final year of the pilot the Company hopes to show a third consecutive year of benefits that exceed costs and to quantify the relative cost effectiveness of ground based versus airplane based cloud seeding. Also, based on results from more sampling and more timely sampling the Company plans to refine the project design and configuration and make it more effective.

In his testimony, Mr. Riley, has summarized the two methods that the Company is using to study and quantify the effects of cloud seeding. At the risk of greatly over simplifying the processes, the Staff describes them as follows. The first method is a statistical method that Mr. Riley calls the target-control method. It has been used to study the effects of cloud seeding in other areas of the country for more than 50 years. The method relies on a mathematical formula developed using regression techniques that relates precipitation at measuring sites outside the cloud seeding study area to precipitation inside the study area before cloud seeding began. Basically, the formula is, when X inches of precipitation occur outside the study area, Y inches are expected to occur within the study area. Once cloud seeding begins, any actual precipitation amounts that differ from the predicted amount, Y, are assumed to be caused by cloud seeding.

Mr. Riley calls the second method the trace-chemistry method. The method uses very sophisticated chemical analysis and snow pack density analysis to identify precipitation contributions from cloud seeding in layers of the snow profile. Snow profile samples are taken

at locations throughout the cloud seeding study area. The samples are taken in a cylindrical tube, then each tube is divided into many smaller samples 2 centimeters thick. Each of the small samples are studied and the results are accumulated to obtain final results. From each small sample two basic pieces of information are obtained - adjusted concentration of silver iodide and the relative density of the sample compared to unseeded snow. These two variables are used in an empirical equation to calculate the increase in precipitation due to cloud seeding.

Silver Iodide is the chemical agent used to seed clouds. It provides a nucleus around which precipitation, in this case an ice crystal or snowflake, can form. Silver iodide concentrations are measured in parts per trillion and measured concentrations require adjustment to remove background levels that naturally occur and amounts that are washed out of the air in the snowfall without forming snow flake nuclei.

The relative density of the snow in each sample, seeded to unseeded, is important because seeded snow is more dense. Therefore, the relative density of each sample provides information concerning the amount of precipitation in the sample that comes from ice crystals with a silver iodide nucleus versus precipitation that would have occurred naturally without cloud seeding. Once these two variables are quantified, the empirical formula allows the calculation of the increase in precipitation due to cloud seeding.

Idaho Power's cloud seeding program includes two other chemical agents that are identified in the chemical analysis of the samples. These chemicals are discharged from ground based or airplane based emitters respectively. Their presence in samples allows the Company to determine the portions of increased precipitation caused by cloud seeding that were caused by the two different seeding methods, ground based or airplane based. Airplane based cloud seeding is more expensive than ground based cloud seeding. Knowing the contribution that each method makes to the final result and the costs of seeding by method will allow the Company to determine whether each method is cost effective.

The estimate of the value of the increased precipitation, whether derived from the target - control method or trace chemistry method, continues with a computer model that determines the quantity of increased precipitation that reaches the Hells Canyon complex and the timing of the increased runoff. Generation amounts are then calculated and the value of the additional generation is established based on average market prices. At this point, power related benefits and costs are known and the cost effectiveness of the program can be determined.

The Company states in its filing that it has seeded clouds during the previous two winters. During the winter of 2002-2003 the Company seeded clouds between February 1, 2003 and April 15, 2003. The seeding produced an estimated 110,000 Acre-Feet of increased runoff which is valued at \$1.6 to \$1.8 million. During the winter of 2003 - 2004 the Company seeded clouds between November 1, 2003 and April 21, 2004. These seedings produced approximately 68,000 Acre-Feet of additional precipitation in the watershed. The associated additional generation is valued at \$1.4 million. In both years estimated benefits exceeded costs. Also in both years, the PCA shared the benefits 90/10 between customers and shareholders while shareholders bore 100% of the costs.

STAFF RECOMMENDATIONS

In its recent general rate case the Company requested that cloud seeding costs be included in its base rates. The Staff did not support the Company in that request. In its final Order the Commission denied the Company's request. This Application is substantially different than the request included in the Company's general rate case. First, the Company's request in this case is to include the variable costs of cloud seeding in the PCA, or in a PCA like manner, for a single year. This treatment captures the benefits and costs of cloud seeding and shares them equitably while the Company completes the final year of evaluation of the cloud seeding program. The second difference between this request and the general rate case request is that information on the 2003 - 2004 cloud seeding year is now available. That information shows the program was cost effective for the second year, which lends additional credibility to the concept that cloud seeding is cost effective for Idaho Power and its ratepayers.

Both Utah and Nevada have state-sponsored cloud seeding programs. The Utah Division of Water Resources, along with other entities, has been involved in cloud seeding operations designed to increase winter precipitation in the state. The studies that the state of Utah has done indicate that cloud seeding programs increase precipitation, in general, by 14 to 20%. This compares to Idaho Power cloud seeding results showing an increase in precipitation of 5 - 16%. The state has also done an economic analysis of the program and the analysis shows that the benefits from the extra precipitation outweigh the costs of the cloud seeding program.

In Nevada, the Desert Research Institute, a nonprofit research campus of the University and Community College System of Nevada, runs the cloud seeding program. The purpose of the program in Nevada is to increase snow pack, increase the spring runoff and water supplies to the

local municipalities, and increase the runoff for recreational lakes. The state of Nevada began intermittently funding cloud seeding programs in the late 1970's and has been funding them continuously since 1984. The state of Nevada notes that benefits vary with the seasonal frequency of suitable weather opportunities. The state's research has shown that cloud seeding does increase the precipitation rate given the right weather conditions.

Staff believes it is appropriate to include cost effective cloud seeding expenses as power supply expenses. Due to the nature of cloud seeding, it is more appropriate to account for these expenses in the PCA. Because the PCA is designed to recover weather-related power supply expenses, including cloud seeding expenses in the PCA is appropriate, as the cloud seeding expenses will vary with the weather.

The accounting methodology that Idaho Power proposes seems appropriate. Staff proposes that detailed sub-accounts be established specifically for the cloud seeding expenses. This detail is needed to properly audit these accounts during the regular PCA review period and to continue evaluating the cost effectiveness of the program.

Based on a search of cloud seeding literature and a review of the Company's program, Staff believes the program to be promising and recommends PCA treatment of the variable costs of the program for the winter of 2004-2005. This allows the PCA to share the benefits and costs of cloud seeding between ratepayers and shareholders. It also aligns the interests of both groups because they win or lose together. Following this year the Company will have three years of cloud seeding data and results that will be available to assist in a recommendation concerning long-term ratemaking treatment.

Respectfully submitted this 24th day of November 2004



Weldon B. Stutzman
Deputy Attorney General

Technical Staff: Keith Hessing
Kathy Stockton

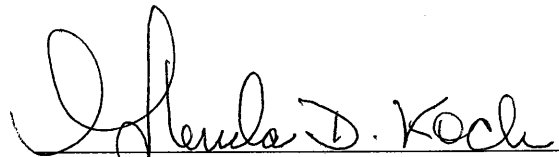
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CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 24TH DAY OF NOVEMBER 2004, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. IPC-E-04-24, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

BARTON L KLINE
MONICA MOEN
IDAHO POWER COMPANY
PO BOX 70
BOISE ID 83707-0070

MAGGIE BRILZ
DIRECTOR, PRICING
IDAHO POWER COMPANY
PO BOX 70
BOISE ID 83707-0070


SECRETARY

CERTIFICATE OF SERVICE